PAT-NO: JP02002245947A

DOCUMENT-IDENTIFIER: JP 2002245947 A

TITLE: SUBSTRATE WITH THIN LINE,

MANUFACTURING METHOD THEREOF,

ELECTRON SOURCE SUBSTRATE AND IMAGE

DISPLAY DEVICE

PUBN-DATE: August 30, 2002

INVENTOR-INFORMATION:

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INT-CL (IPC): H01J029/04, H01J001/316, H01J009/02,

н01J031/12

ABSTRACT:

PROBLEM TO BE SOLVED: To suppress end peeling peculiar to the formation of a thin line by an exposure and development method.

SOLUTION: In a substrate with thin lines, the thin lines are formed by a thin line forming process including a step of irradiating

light, from above the substrate, to a given region in a photosensitive material applied onto the substrate and a developing step subsequent to the light irradiating step, the thin lines have a narrow portion at a longitudinal end thereof, and the narrow portion has a smaller width shape than a portion adjacent to the narrow portion.

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			DB	Time stamp
L Number	Hits 44788	Search Text (wire wiring) near2 line	USPAT;	2003/06/23 16:40
1	44/00	(Wife Willing) near2 1110	US-PGPUB;	
			EPO; JPO;	
		and line moons and	DERWENT USPAT;	2003/06/23 16:35
2	51	(((wire wiring) near2 line) near5 end) with (smaller small narrower narrowing	US-PGPUB;	
Ì	ļ	taper\$3)	EPO; JPO;	
			DERWENT	2000 (00 (00 10 10
3	4396	((wire wiring) near2 line) with end	USPAT;	2003/06/23 16:40
			US-PGPUB; EPO; JPO;	
			DERWENT	
_	445553	(electron adj source display liquid adj	USPAT;	2003/06/23 16:42
5	443333	crystal) near2 (substrate device	US-PGPUB;	
		apparatus)	EPO; JPO;	
		O line \ with and \	DERWENT USPAT;	2003/06/23 16:42
6	16	<pre>((((wire wiring) near2 line) with end) with (narrow\$3 small\$3 decreas\$3 less</pre>	US-PGPUB;	2000,00,20
		taper\$3)) and ((electron adj source	EPO; JPO;	
		display liquid adj crystal) near2	DERWENT	
1		(substrate device apparatus))		2003/06/23 16:54
4	198	(((wire wiring) near2 line) with end)	USPAT; US-PGPUB;	2003/00/23 10:34
		with (narrow\$3 small\$3 decreas\$3 less	EPO; JPO;	
		taper\$3)	DERWENT	
7	159	((electron adj source display liquid adj	USPAT;	2003/06/23 16:55
'	133	crystal) near2 (substrate device	US-PGPUB;	
		apparatus)) and (((wire wiring) near2 line	EPO; JPO; DERWENT	
) same (narrow\$3 taper\$3)) ((((electron adj source display liquid adj	USPAT;	2003/06/23 16:56
9	152	crystal) near2 (substrate device	US-PGPUB;	
		apparatus)) and (((wire wiring) near2 line	EPO; JPO;	
	1) same (narrow\$3 taper\$3))) not ((((wire	DERWENT	
		wiring) near2 line) with end) with		
Ì		(narrow\$3 small\$3 decreas\$3 less taper\$3))		
		and ((electron adj source display liquid adj crystal) near2 (substrate device		
•		apparatus)))) not (((wire wiring) near2		
		line) with end) with (narrow\$3 small\$3		
	Ì	decreas\$3 less taper\$3))	HCDATT.	2003/06/23 17:18
8	152	(((electron adj source display liquid adj	USPAT; US-PGPUB;	2003/00/23 17:10
		crystal) near2 (substrate device apparatus)) and (((wire wiring) near2 line		
) same (narrow\$3 taper\$3))) not ((((wire	DERWENT	
		wiring) near2 line) with end) with	,	
		(narrow\$3 small\$3 decreas\$3 less taper\$3))		
		and ((electron adj source display liquid adj crystal) near2 (substrate device		
·		apparatus)))		
10	23	photoresist same (heat\$3 bak\$3) same	USPAT;	2003/06/23 17:20
		((wire wiring) near2 line)	US-PGPUB;	
			EPO; JPO; DERWENT	
	205	UDA-YOSHIMIIin. SHIWATA-KAZUYAin.	USPAT;	2003/06/23 13:59
-	305	KUBO-SHINSAKUin. watanabe-yasuyukiin.	US-PGPUB;	\
		1000	EPO; JPO;	
İ		40	DERWENT	2003/06/23 15:49
-	130421	(line circuit wire wiring) with (narrow\$3	USPAT; US-PGPUB;	2003/00/23 13.49
1		small\$3 less decreas\$3) with (end width portion)	EPO; JPO;	
		portion,	DERWENT	
	674315	resist photoresist photo-resist	USPAT;	2003/06/23 14:03
		photosensitive photo-sensitive (sensitive	US-PGPUB;	
		near (light radiation energy photo))	EPO; JPO; DERWENT	
		electron adj source adj substrate	USPAT;	2003/06/23 14:04
-	586	election and source and substitute	US-PGPUB;	
	ł		EPO; JPO;	
			DERWENT	

	79089	image adj display	USPAT;	2003/06/23 14:04
			US-PGPUB; EPO; JPO;	
	! !		DERWENT	
		1 / Jan Jak / narrows3	USPAT;	2003/06/23 14:06
	3901	((line circuit wire wiring) with (narrow\$3	US-PGPUB;	
	1	small\$3 less decreas\$3) with (end width	EPO; JPO;	
		portion)) same (resist photoresist	DERWENT	
		photo-resist photosensitive photo-sensitive (sensitive near (light	22	
	1	photo-sensitive (sensitive near (right		
		radiation energy photo))) (line) with (narrow\$3 small\$3 less	USPAT;	2003/06/23 14:27
	5703	decreas\$3) with (end portion) with width	US-PGPUB;	
	1	decreas(3) with (end portion, with with	EPO; JPO;	
			DERWENT	
	024	((line) with (narrow\$3 small\$3 less	USPAT;	2003/06/23 14:06
	234	decreas\$3) with (end portion) with width)	US-PGPUB;	
		same (resist photoresist photo-resist	EPO; JPO;	}
		photosensitive photo-sensitive (sensitive	DERWENT	4
		near (light radiation energy photo)))		
	0	(((line) with (narrow\$3 small\$3 less	USPAT;	2003/06/23 14:07
-		decreas\$3) with (end portion) with width)	US-PGPUB;	
		with (resist photoresist photo-resist	EPO; JPO;	
	1	photosensitive photo-sensitive (sensitive	DERWENT	
		near (light radiation energy photo))))		
		same (electron adj source adj substrate)		
		same (image adi display)	l	2003/06/23 14:07
_	2	(((line) with (narrow\$3 small\$3 less	USPAT;	2003/06/23 14:07
	_	decreas\$3) with (end portion) with width)	US-PGPUB;	
		with (resist photoresist photo-resist	EPO; JPO;	
		photosensitive photo-sensitive (sensitive	DERWENT	1
		near (light radiation energy photo)))) and		-
		(electron adj source adj substrate) and		
		(image adj display)	USPAT;	2003/06/23 14:11
_	3	(((line) with (narrow\$3 small\$3 less	US-PGPUB;	2003,00,20 = 51=5
		decreas\$3) with (end portion) with width)	EPO; JPO;	·
		same (resist photoresist photo-resist	DERWENT	
		photosensitive photo-sensitive (sensitive	DERWENT	
		near (light radiation energy photo)))) and	\	
	}	(electron adj source adj substrate) and		
		(image adj display)	USPAT;	2003/06/23 14:13
_	148	((line) with (narrow\$3 small\$3 less	US-PGPUB;	
		decreas\$3) with (end portion) with width)	EPO; JPO;	
		with (resist photoresist photo-resist photosensitive photo-sensitive (sensitive	DERWENT	
		near (light radiation energy photo)))	22	ĺ
		(((line) with (narrow\$3 small\$3 less	USPAT;	2003/06/23 14:2
-	10	decreas\$3) with (end portion) with width)	US-PGPUB;	
•		same (resist photoresist photo-resist	EPO; JPO;	
		photosensitive photo-sensitive (sensitive	DERWENT	
		near (light radiation energy photo)))) and		
		((electron adj source adj substrate)		
		(image adj display))		
	307	(line) with ((narrow\$3 small\$3 less	USPAT;	2003/06/23 14:3
-	307	decreas\$3) near3 width) with (end near2	US-PGPUB;	·
		width)	EPO; JPO;	
		WIGGIT	DERWENT	
_	137357	(circuit wire wiring) near2 line	USPAT;	2003/06/23 15:5
_	13/33/	(0110010 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110 11110	US-PGPUB;	
	Ì		EPO; JPO;	
			DERWENT	
_	638935	end near2 portion	USPAT;	2003/06/23 15:5
-	030933	Ond House Francisco	US-PGPUB;	1
			EPO; JPO;	
			DERWENT	
	,	((circuit wire wiring) near2 line) with	USPAT;	2003/06/23 15:5
_	1	(end near2 portion) with narrow\$3	US-PGPUB;	
	1	/ Court mount boronous, manners	EPO; JPO;	I
	ļ		EPO; DEO;	

		DCDAT.	2003/06/23 15:53
8	((circuit wire wiring) near2 line) with		2003/00/23 13:33
	(end near2 portion) with taper\$3		
			,
			0003/06/33 15.57
1 8	(((circuit wire wiring) near2 line) with	1	2003/06/23 15:57
	(end near2 portion) with taper\$3) not		
l [(((circuit wire wiring) near2 line) with		
i	(end near2 portion) with narrow\$3)		0000 /06 /00 15 - 50
5	((line) with ((narrow\$3 small\$3 less		2003/06/23 15:58
	decreas\$3) near3 width) with (end near2		}
	width)) and ((electron adj source adj		
	substrate) (image adj display))		
30	((line) with ((narrow\$3 small\$3 less	USPAT;	2003/06/23 16:02
	decreas\$3) near3 width) with (end near2		
	width)) and (distal chamfer\$3)	EPO; JPO;	
	W14001/ / 51111 (5111)	DERWENT	
44788	(wire wiring) near2 line	USPAT;	2003/06/23 16:14
		US-PGPUB;	
		EPO; JPO;	
		DERWENT	
93	(/wire wiring) near2 line) same width same	USPAT;	2003/06/23 16:08
93	end same (narrow\$3 taper\$3 decreas\$3	US-PGPUB;	
	small\$2 less)	EPO; JPO;	1
1	Smarry 1000/	DERWENT	
14788	(wire wiring) near2 line	USPAT;	2003/06/23 16:32
44,00	(1110 111111111111111111111111111111111	US-PGPUB;	
		EPO; JPO;	
		DERWENT	
2397	((wire wiring) near2 line) near5 end	USPAT;	2003/06/23 16:21
2301	(wite willing) model	US-PGPUB;	*
	*	EPO; JPO;	
		DERWENT	
	8 5	<pre>(end near2 portion) with taper\$3 (((circuit wire wiring) near2 line) with (end near2 portion) with taper\$3) not (((circuit wire wiring) near2 line) with (end near2 portion) with narrow\$3) ((line) with ((narrow\$3 small\$3 less decreas\$3) near3 width) with (end near2 width)) and ((electron adj source adj substrate) (image adj display)) ((line) with ((narrow\$3 small\$3 less decreas\$3) near3 width) with (end near2 width)) and (distal chamfer\$3) 44788 (wire wiring) near2 line ((wire wiring) near2 line) same width same end same (narrow\$3 taper\$3 decreas\$3 small\$2 less) (wire wiring) near2 line</pre>	(end near2 portion) with taper\$3 (((circuit wire wiring) near2 line) with (end near2 portion) with taper\$3) not (((circuit wire wiring) near2 line) with (end near2 portion) with narrow\$3) ((line) with ((narrow\$3 small\$3 less decreas\$3) near3 width) with (end near2 width)) and ((electron adj source adj substrate) (image adj display)) ((line) with ((narrow\$3 small\$3 less decreas\$3) near3 width) with (end near2 width)) and (distal chamfer\$3) ((line) with ((narrow\$3 small\$3 less decreas\$3) near3 width) with (end near2 width)) and (distal chamfer\$3) ((wire wiring) near2 line) ((wire wiring) near2 line) same width same end same (narrow\$3 taper\$3 decreas\$3 small\$2 less) ((wire wiring) near2 line) same width same end same (narrow\$3 taper\$3 decreas\$3 small\$2 less) ((wire wiring) near2 line) near5 end ((wire wiring) near2 line) near5 end ((wire wiring) near2 line) near5 end